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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,882	04/12/2004	Moo Hwan Kim	KIMM3007/EM	2491
23364	7590	02/07/2006	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			VERBITSKY, GAIL KAPLAN	
			ART UNIT	PAPER NUMBER
			2859	

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

E/C

<b>Office Action Summary</b>	Application No. 10/821,882	Applicant(s) KIM ET AL.	
	Examiner Gail Verbitsky	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01/17/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-9 is/are allowed.
- 6) ☒ Claim(s) 10-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.


**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**GAIL VERBITSKY**  
PRIMARY EXAMINER

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Upon further consideration the finality of the previous Office action has been withdrawn by the Examiner and the prosecution is re-opened.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 10-13 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. In this case, "means for measuring the heat dissipation" critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Perhaps applicant should replace "measuring" in lines 1 and 8 with —determining or obtaining—.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims are rejected due to the reasons stated above. Furthermore, please note, that in the rejection on the merit of claim 10, the Examiner considers that the heat dissipation is obtained/ determined but not measured.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill (U.S. 5672289).

O'Neill discloses in Fig. 1 a device for measuring heat from a heater and controlling a heater, the device comprising a reference heating element/ heater 22 and a sample/ target heating element/ heater 24 which are having size and outer configuration substantially identical to each other, as shown in Fig. 1. The device comprises a heater control unit 42, a pair of temperature sensors 10, 12 measuring temperature of a sample and a reference sample respectively, which temperatures are representative of heat flow from the sample heater (emitting heat by itself) and the reference heater respectively, and thus, in a broad sense, it is considered, that it is representative of the sample heater and the reference heater.

The control unit 42 controls the reference heater (and the sample heater) such that the difference (error) of temperatures obtained by the reference temperature sensor (representative the reference heater) 12 and the sample temperature sensor (representative the sample heater) 10 is minimized (becomes substantially identical) (col. 2, lines 55-67 and entire col. 3). *The fact that the temperatures are kept equalized, would suggest that there is a relationship between heat dissipation of one sample (i.e.,*

*test sample) and heating value of another sample (i.e., reference sample). Therefore, by knowing said heating value, the heat dissipation could be obtained.*

In addition, the reference heating element 22 is an electrical heating element (resistance) and thus, provided with an electrical heater (heat source).

Furthermore, in response to the control unit that compares the temperatures, the power is being supplied by the control unit to the sample heater and the reference heater so as to eliminate said temperature difference/ error and thus, to make the temperatures substantially equal to each other (col. 3, lines 8-18).

#### ***Allowable Subject Matter***

8. Claims 4-9 are allowed. Claims 11-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

9. Applicant's arguments have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

Please note, that it is very well known in the art that the heat dissipation/ heat value of a sample object (in, for example, differential heat calorimetry) is related to heat value/ heat dissipation of the reference sample. Therefore, by knowing/ measuring heat value of the reference the heat dissipation of the sample can be determined.

#### ***Conclusion***

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10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices and methods.

**Dell et al. (U.S. 3643491)** teach to attain the same temperatures in the sample and the reference and measuring the difference of energy/ heat flow when the temperatures are equalized. It is inherent, that the difference in the heat flow would be indicative of the energy/ heat dissipating from the sample.

**O'Neill (U.S. 3747396)** disclose a device comprising a sample material and reference material along with heat sensing resistors (sample and reference) 44 and 46 and heaters (sample and reference) 66 and 68. The device is directed to applying differential energy/ heat  $\Delta W$  required to maintain the temperature of the sample and the reference equalized.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gail Verbitsky whose telephone number is 571/ 272-2253. The examiner can normally be reached on 7:30 to 4:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571/ 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GKV

*Gail Verbitsky*  
*Primary Patent Examiner, TC 2800*



January 26, 2006